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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,711	12/19/2001	Stein A. Lundby	PA020015	3873
23696	7590	07/23/2004	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			LEE, TIMOTHY L	
			ART UNIT	PAPER NUMBER
			2662	13
DATE MAILED: 07/23/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/029,711

Applicant(s)

LUNDBY, STEIN A.

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 5, 6, 9, 11, 14, 15, 16, 19, 21, 22, 23, 24, 25, and 26-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al. (US 2002/0003798).

3. Regarding claims 11 and 24, Sato et al. discloses a method of providing multicast services. Fig. 2 shows a wireless base station 20 that includes a transceiver 21, a multicast information storage unit 22 (a memory element), a network control unit 23 (a processing element), and an information delivery control unit 24. The multicast information storage unit 22 stores the multicast information that the network control unit 23 received through the predetermined network (an apparatus for multi-cast transmissions). See paragraph 0057. Fig. 3 shows a wireless terminal 10 that includes a transceiver 11, an output unit 12, and a control unit 13. The control unit 13 controls the transceiver 11 and the output unit 12, and measures the reception quality of downlink signals received by the transceiver 11. Such reception quality may include a reception level, an interference level, a noise level, an error rate, etc. See paragraph 0059. In the system for rendering multicast services, each wireless terminal 10 uses the control unit 13 to measure reception quality such as a reception level with regard to a free downlink channel that is used by the transceiver 11 for signal reception—each wireless terminal 10 then

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notifies the wireless base station 20 of the result of the measurement. See paragraph 0060. The information delivery control unit 24 of the wireless base station 20 takes into account the rate of multicast information received from the network and at least some of the measured results of reception quality received from the wireless terminal 10 that requested the multicast information. Based on this, the information delivery control unit 24 determines how to deliver the requested multicast information—parameters that can be altered include the number of spreading codes, the number of timeslots, the modulation multi-number, the bit rate, etc. (using channel quality information for at least one subscriber to determine the transmission format of the multi-cast service to the group of subscribers). See paragraphs 0062 and 0092. Before sending the multi-cast information, the base station 20 transmits to the wireless terminal 10 the transmission conditions of multicast information corresponding to the requested multicast group. The transmission conditions of multicast information specifies requirements for the transmission of multicast information to the wireless terminal 10, and may indicate a wireless channel a transmission timeslot, the number of modulation levels, a transmission time slot, a processing gain of spreading, and the number of spreading codes, etc. Information about such conditions is necessary for each wireless terminal 10 to receive multicast information from the wireless base station 20 (generating an identifier for a group of subscribers, wherein the identifier is for accessing a multi-cast service...transmitting the identifier on at least one channel). See at least paragraph 0061 and 0075. The multicast information is then sent to the terminals according to the parameters that were decided upon earlier (transmitting the multi-cast service... wherein the multi-cast service is transmitted in accordance with the transmission format determined by the channel quality information). See Fig. 8, and paragraph 0073 for exemplary discussion.

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4. Regarding claims 1 and 23, as an example, Sato et al. discloses that the base station notifies the wireless terminals H through of the timeslot  $t(k)$  and the spreading codes as the transmission conditions of multicast information. As a result, the wireless terminals H through L receive the downlink timeslot  $t(k)$  from the wireless base station BS (the multicast service is transmitted to each of the subscribers in accordance with the timing determined by the channel quality information). See paragraphs 0075-0076.

5. Regarding claims 4, 9, 14, 19, 26, 28, 29, 32, 35, 38, 41, 44, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by selecting the channel quality information associated with the worst channel conditions). Also, as discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work.

6. Regarding claims 5, 6, 15 and 16, as mentioned previously, the reception quality measurement can be based on an interference level or on reception level. See paragraph 0059.

7. Regarding claims 21 and 22, as mentioned previously, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by selecting the channel quality information associated with the worst channel conditions). Also, as

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discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work. Also, as mentioned previously, the wireless terminal needs the information concerning conditions, like spreading codes, in order to receive the multicast information. It is inherent in a CDMA system that the service is “scrambled” using a code and descrambled by the user with that code in order to read the data. See paragraph 0061. As an example, the terminals H through L of Fig. 8 can only descramble the data using the codes C1, C2, and C3, so they are the only subscribers that can descramble using those spreading codes.

8. Regarding claim 25, as mentioned previously, Sato et al. discloses that the timing of the information must also be taken into consideration. Specifically, in order to achieve a substantially equal delivery time for each transmission rate when delivering the same multicast information at different transmission rates, the method includes a step of decreasing a size of the multicast information to be transmitted as the different transferring rates decrease. See at least paragraph 0029. Thus, to account for timing, the base station uses the reception quality parameters to adjust the timing correctly. Also, the discussion in paragraphs 0073-0075 shows that the base station accounts for reception quality at the terminals with the worst reception quality. Specifically, in Fig. 8, wireless terminals A through E are farthest away from the base station, so their reception quality is the poorest. To accommodate, the use of two, as opposed to three, spreading codes is implemented (choosing channel quality information by selecting the channel quality information associated with the worst channel conditions). Also, as discussed previously, the system also uses the reception quality information to figure out the timing needed to make the system work.

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9. Regarding claims 27, 28, 30, 31, 33, 34, 36, 37, 39, 40, 42, 43, 45, 46, as mentioned previously, Sato et al. discloses that the number of timeslots and the transmission rate can be altered to account for reception quality. See at least paragraphs 0075, 0077, and 0082.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 3, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in light of the rejections to claims 1 and 11.

12. Regarding claims 2 and 12, Sato et al. does not expressly disclose sending the identifier information of the multicast conditions over a first channel and sending the actual multicast information over a second channel. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to send these two types of information over two different channels. One would have motivated to do this because changes in the network environment might require that the multicast conditions change on a rapid basis, so it might be quicker to effect these changes if the condition information sent over a dedicated channel separate from the multicast information itself. In this way, the base station would be assured that there would always be a path available to send the new condition information.

13. Regarding claims 3 and 13, as mentioned previously, the wireless terminal needs the information concerning conditions, like spreading codes, in order to receive the multicast

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information. It is inherent in a CDMA system that the service is “scrambled” using a code and descrambled by the user with that code in order to read the data. See paragraph 0061.

14. Claims 7, 10, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Honkasalo et al. (US 5,995,496).

15. Regarding claims 7, 10, 17, and 20, Sato et al. does not expressly disclose finding the channel quality information through acknowledgements. Honkasalo et al. discloses measuring the quality level through acknowledgment messages. See col. 7, line 67-col. 7, line 4. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use acknowledgement messages as taught in Honksalo et al. to measure channel quality in the system disclosed by Sata et al.. One would have been motivated to do this because using acknowledgment messages would not require much complexity and could be implemented easily in many current systems.

16. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Honkasalo et al., further in view of Segura et al. (US 6,360,076). Neither Sato et al. nor Honksalo et al. expressly discloses measuring a percentage of acknowledgement messages to determine whether or not to transmit the multi-cast service. Segura et al. discloses sending out test packets; mobile stations with the proper quality will reply, and when there is a certain number of replies within a given window, the base station begins transmitting multicast information at a certain quality. See at least col. 5, line 45-col. 6, line 7. It would have been obvious to count the replies of the test packets as taught by Segura et al. in the combined system of Sato et al. and Honkasalo et al.. One would have been motivated because this procedure adds

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another check to make sure the base station is sending the multicast at a sufficient quality level, which will waste less resources.

17. Claims 47-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Cheng et al. (US 6,393,008). Sato et al. does not expressly disclose where the identifier used is specifically a MAC\_ID. Cheng et al. discloses using a MAC\_ID as an identifier. See col. 5, lines 44-60. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the MAC\_ID taught by Cheng et al. to identify the mobile terminals in Sato et al.. One would have been motivated to do this because the use of a MAC\_ID allows for multiple access of the medium. See abstract of Cheng et al..

#### ***Response to Arguments***

18. Applicant's arguments filed May 17, 2004 have been fully considered but they are not persuasive.

19. In response to Applicant's argument that the system of Sato et al. does not generate an identifier, the Examiner respectfully disagrees. Applicant argues that Sato et al. is actually talking about a broadcast-type system and not a multicast system, and Applicant cites paragraph 0057 of Sato et al. as evidence. The Examiner believes this assertion is incorrect. Sato et al. clearly contemplates a multicast system, as one skilled in the art would understand. In paragraphs 0061-0062, Sato et al. explicitly states that the "wireless base station 20 takes into account...some of the measured results ...from the wireless terminal 10 that *requested* the multicast information." These two paragraphs indicate that the base station only sends this information if the terminal requested it, which means that the base station does not send to every

terminal. Because the base station only sends the information to terminals that have requested the information, the base station is not broadcasting and is instead multicasting. Thus, the Examiner believes the rejection remains proper.

20. In response to Applicant's argument that Sato et al. does not expressly disclose sending the multi-cast service to each of the subscribers, the Examiner respectfully disagrees. As mentioned previously, Sato et al. discloses that "the wireless base station BS multiplexes and transmits the multicast information spread by the three spreading codes C1, C2, and C3... The wireless base station BS notifies the wireless terminals H through L of the timeslot  $t(k)$  and the three spreading codes..." See paragraph 0075. Thus, for the group H-L, each terminal receives spreading code and timeslot information to identify the multicast service when it is transmitted by the base station, and each of the subscribers H through L has received this information, and the timing is covered by the timeslot information. Thus, because Sato discloses generating an identifier for the terminals H-L, the Examiner believes the rejection remains proper. As a side argument, Applicant also argues that different spreading codes are used for different subscribers. However, the groups H-L and A-E can be thought of as two distinct multicast groups. Each group has its own subscribers and its own identifiers. For the purposes of this discussion, it is sufficient to concentrate on how the system deals with one of the two groups.

21. In response to Applicant's argument that Sato et al. does not disclose "transmission format," the Examiner respectfully disagrees. As mentioned in the previous paragraph, the transmission format is sent to the terminals H-L so that the terminals can receive the multicast information. Again, it is only necessary to focus on the one group of terminals.

22. In response to Applicant's argument that the Examiner has asserted limitations that are well-known or obvious with respect to claims 1 and 23, the Examiner disagrees. As shown in the rejection, the Examiner does not use an obviousness argument in rejecting claims 1 and 23. Thus, the Examiner believes the rejection remains proper.

23. In response to Applicant's argument that the Examiner has not established inherency with regard to claims 3 and 13, the Examiner disagrees. Applicant argues that it does not necessarily follow that scrambling would occur. However, Applicant himself notes that "in normal wireless systems, a scrambling code is common to all users in a given cell..." Thus, Applicant admits that scrambling occurs in such systems disclosed by Sato et al.. As mentioned previously, Sato et al. also discloses that the terminals H through L get the spreading codes C1, C2, and C3. This compilation of three codes is only known to the group H through L. Thus, when the base station spreads the signals by C1, C2, and C3, it does necessarily follow that that terminals H through L are the only terminals that have all three spreading codes and are able to descramble the signal. Because the terminals in a particular group are the only ones who have the code to descramble the signal, the rejection remains proper.

24. In response Applicant's request for the Examiner to provide documentary evidence that the features in claims 8 and 18 would indeed be well-known, the Examiner has honored the request. Please the rejection above.

25. In response to Applicant's request for the Examiner to produce evidence of transmitting on a first and second channels, the Examiner submits Honkasalo et al., which discloses the use of different channels to send different types of data, like control and regular data. See col. 4, lines 42-63.

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*Conclusion*

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

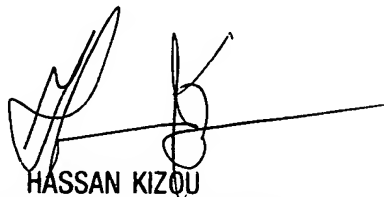
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLL  
Timothy Lee  
July 7, 2004

A handwritten signature in black ink, appearing to read 'HASSAN KIZOU', is written over a horizontal line.

HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600